ugust, 1918 Extension Circular No. 77

List of Available Publications

of the Agricultural Extension Service, Experiment Station, and State Department of Agriculture

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RALEIGH AND WEST RALEIGH

List of Available Publications of the North Carolina Agricultur Extension Service, Experiment Station, and State Department of Agriculture

By F. H. JETER, *Agricultural Editor*

The following publications are available to citizens of North Carolina ar may be had on application to the Agricultural Editor, North Carolina Agr cultural Extension Service, Raleigh, N. C.:

EXTENSION CIRCULARS

*No. 1. Some Important Diseases of Tomatoes in North Carolina.
No. 2. Selecting Seed Corn for Larger Yields.
*No. 3. The Colony Hog House.
No. 4. Curing Meat on the Farm.
No. 5. Report of Canning Club Work, December, 1914-December, 1915.
No. 6. The Proper Methods of Housing and Handling the Farm Flock
No. 7. Plans for Community Club Work in the Study of Foods ar Household Conveniences.
No. 8. (1) Report of Boys' Club Work in North Carolina. (2) Arithmetic Problems Based Upon Agricultural Club Wor
No. 9. The Soybean Industry of Eastern North Carolina.
*No. 10. The Home Garden.
No. 11. Canning and Preserving with 4-H Recipes.
No. 12. Pig Club Manual. (Reprint.)
No. 13. North Carolina Credit Unions.
*No. 14. Federal Farm Loan Act.
*No. 15. Crimson Clover.
No. 16. Hairy Vetch.
No. 17. Grass Mixtures for North Carolina Pastures.
No. 18. Tobacco Curing Barns.
No. 19. The Southern Corn Bill Bug.
No. 20. Bur Clover for Improvement of Coastal Plain Soils.
No. 21. Rape for Hog Pasturage.
No. 22. Dehorning Cattle.
No. 23. From Wool to Cloth.
No. 24. How to Use Lime on the Farm.
No. 25. Score Card for Swine.
No. 26. Score Card for Beef Cattle.
No. 27. Score Card for Mutton Sheep.
No. 28. How to Secure Better Lawns in North Carolina.
No. 29. Commercial Use of the Soybean.

*Not available. Issue exhausted.

). 30. The Storage of Sweet Potatoes.
). 31. Dairy Cattle Score Card.
). 32. Soil Survey Work in North Carolina.
). 33. Hog Houses and Equipment.
). 34. List of Publications.
). 35. Poultry Score Card.
). 36. Where Good Seed of Recommended Varieties May be Obtained.
). 37. Improving Seed in Scotland Neck Community.
). 38. Farmers' Limestone, Shell, and Marl Grinding Plants.
). 39. How to Organize a Credit Union.
). 40. Farm Account Book.
). 41. Developing Credit in the Community.
). 42. A Sow and Her Two Litters of Pigs.
). 43. Home Garden Suggestions and Vegetable Seeding Calendar.
). 44. Premium List and Judges' Book for Community Fairs, 1917.
). 45. Premium List and Judges' Book for District Fairs.
). 46. Premium List and Judges' Book for County Fairs.
). 47. Premium List and Judges' Book for State Fair.
). 48. Spraying Irish Potatoes.
). 49. Fall or Second Crop of Irish Potatoes in Eastern North Carolina.
). 50. Drying of Fruits and Vegetables for Home Consumption.
). 51. Program Boys' Short Course.
). 52. Bee-keeping Practice in North Carolina.
). 53. The Growing of Wheat in Eastern North Carolina.
). 54. Length of Staple of Cotton Produced in North Carolina.
). 55. A Farm Smokehouse and Smoke-building Contest for North Carolina Club Members.
). 56. Soybean Harvesters.
). 57. Soybeans: A Future Economic Factor in North Carolina.
). 58. A Meat-curing Contest for North Carolina Pig Club Members and Curing Meat on the Farm.
). 59. Methods of Saving Sugar, Fats, Wheat, and Meat.
). 60. What is a Credit Union?
). 61. Tobacco Wild Fire.
). 62. Home-making of Cottage and Buttermilk Cheese.
). 63. Where Good Seed of Recommended Varieties May be Obtained.
). 64. Successful Sheep and Lamb Raising.
). 65. Food Production Campaign for North Carolina.
). 66. Orchard Spraying.
). 67. Boys' Agricultural Club Circular.
). 68. The Organization and Management of Fairs.
). 69. Fairs and Their Educational Value.
). 70. Composition and Fertilizing Value of Farm Crops.
). 71. The Growing of Wheat in Eastern North Carolina.

Not available. Issue exhausted.

No. 72. Fourth Annual Short Course Program.
No. 73. Industries Using North Carolina Timber.
No. 74. Marketing North Carolina Farm Timber.
No. 75. Buckwheat Production in North Carolina.
No. 76. The Canning of Fruits and Vegetables by 4-H Recipes. (Rep and revision of Canning Methods in Circular No. 11.)

AGRICULTURAL EXPERIMENT STATION PUBLICATIONS

Bulletins

No. 213. Feeding Experiments with Cows and Calves.
No. 214. Two Important Cantaloupe Pests.
No. 215. Cottonseed Meal Feeding Experiments with Horses and Mu
*No. 216. Feeding Cottonseed Meal to Draft Animals.
No. 217. A Serious Lettuce Disease.
*No. 218. Feeding Experiments with Beef Cattle.
No. 219. Feeding and Management of Beef Cattle.
No. 220. Care and Management of the Dairy Herd.
No. 221. Profitable Poultry Raising.
No. 222. Cottonseed Meal and Corn Silage Feeding Experiments Beef Cattle.
No. 223. Sheep Raising in North Carolina.
No. 224. Topworking Seedling Pecan Trees.
No. 225. How Shall Farmers Organize?
No. 226. Report of Variety Tests of Cotton for 1913 and a Summar Results for the Past Eleven Years.
*No. 227. Fertilizer Experiments with Cotton on Piedmont Cecil Sa Loam Soil, and Varieties, Culture and Fertilization of Co on Piedmont Cecil Sandy Loam and Red Clay Soils.
No. 228. Air-cooled Apple Storage Houses.
*No. 229. Fertilizer Experiments with Corn on Piedmont Cecil Sandy L Soil, and Varieties, Culture and Fertilization of Corn on P mont Cecil Sandy Loam and Red Clay Soils.
No. 230. Variety Tests of Corn for 1914.
No. 231. Report on Variety Tests of Cotton for 1914.
No. 232. Results of Variety Tests of Wheat, Oats and Rye.
*No. 233. Common Diseases of Poultry.
No. 234. Farm Drainage in North Carolina.
No. 235. (1) Some Further Studies of Chick Mortality.
(2) When to Feed the Baby Chick.
No. 236. The Prevention and Control of Erosion in North Carolina, Special Reference to Terracing.
No. 237. Tobacco Culture in North Carolina.
No. 238. Harvesting Tobacco by Priming, or Picking the Leaves, as pared with Cutting the Stalks.
No. 239. (Not issued.)

*Not available. Issue exhausted.

). 240. Composite vs. One-day Sampling of Milk for the Babcock Test.

Technical Bulletins

). 8. A Serious Lettuce Disease and a Method of Control.
). 9. Relation of the Mineralogical and Chemical Composition to the Fertilizer Requirements of North Carolina Soils.
). 10. Breeding Rotundifolia Grapes.
). 11. Self-sterility in Dewberries and Blackberries.
). 12. Inheritance of Sex in Vitis Rotundifolia.
). 13. Biological Investigations of Sphenaphorus Callosus.
). 14. Repair of Bone in Domestic Fowl.
). 15. A Monograph on Trembles, or Milksickness, and White Snakeroot.

Circulars

). 1. Silo Facts.
). 2. Beef Cattle and Sheep Barns.
). 3. Improving Cotton by Seed Selection on the Farm.
). 4. Curing Meat on the Farm.
). 6. Composition and Fertilizing Value of Farm Crops.
). 7. The Premier Clover for North Carolina Farmers.
). 8. Effects of Applying Commercial Fertilizers to Corn and Cotton by Different Methods.
). 9. Grass Mixtures for North Carolina Pastures.
). 10. Hairy Vetch.
). 11. Source, Availability and Suitability of Different Forms of Plant Food Constituents to Different Crops.
). 12. Effects of Different Fertilizing Materials Upon the Maturity of Cotton.
). 13. Long-staple Cotton in North Carolina.
). 14. Buying Cottonseed for Planting.
). 15. Farmers' Clubs: Their Organization and Work.
). 16. Reports of Variety Tests of Cotton in Mecklenburg County.
). 18. Fertilization and Cultivation of Corn, Cotton, and Tobacco.
). 19. Some Important Diseases of Tomato in North Carolina.
). 20. Rape for Hog Pasture.
). 21. Improving Cotton by Seed Selection on the Farm.
). 22. Beef Cattle Production and Cooperative Breeders' Organizations.
). 23. (Not issued.)
). 24. Soybean Pasturage for Hogs.
). 25. Feeding the Sow and Suckling Pig.
). 27. The Limitations of Cottonseed Meal Feeding in Poultry.
). 28. Use of Lime on the Farm.
). 29. Feeding Skim Milk, Buttermilk and Whey to Hogs.
). 30. Oats for North Carolina.

Not available. Issue exhausted.

*No. 31. Soybean Growing in North Carolina.
*No. 32. Increasing Our Crop Yields by Seed Selection on the Farm.
*No. 33. Daily Feed and Milk Record Sheet.
No. 34. Soybean Products and Their Uses.
No. 35. Velvet Beans: How to Grow and Use.

NOTE.—The printing of Experiment Station Circulars been practically discontinued as their place has been filled by Extension Circular series.

BULLETINS OF THE NORTH CAROLINA STATE DEPARTMEN OF AGRICULTURE

The first issue of the State Department Bulletin in the present pamp form was made in July, 1899. It has been issued in this form each m from that date.

1899

*November—Horse to Breed From—Cottonseed Products.

1900

*December—Food Products—Pure Food.

1901

*January—Fertilizer Analyses.
*February—Fertilizers Registered—Hog Cholera.
*July—A. and M. College—Wheat and Oat Fields.

1902

*January—Test Farm Reports.
*February—Fertilizer Analyses—Lipp's Formula.
*March—Fertilization of Corn and Cotton—Compost Formula—Broom Culture.
*April—Geese—Turkeys—Locust Year—Bermuda Grass.
*May—Feeds—Condition Powders—Crop Report.
*June—Fertilizers—N. C. Exhibit at Charleston Exposition.
*July—Breeds of Beef Cattle.
*August—Industrial Progress.
*September—Food Products and Law.
*October—Cabbage Snake—Ridding Farm of Moles.
*November—Digestion of Food—Poultry—Ginseng.
*December—Cattle Quarantine—Alfalfa—Silos.

1903

*January—Food Products—Analyses.
*February—Test Farm Reports, Corn and Cotton.

*Not available. Issue exhausted.

March—Fertilizers—Freight Rates—Cottonseed Meal Analyses.
April—Canning, Preserving and Evaporating Fruit.
July—Fertilizer Analyses.
August—Industrial Progress.
September—Improvement of Corn by Seed Selection.
November—Trucking—Lime and its Uses—Rotation of Crops.
December—Feedstuffs and Act Regulating Same.

1904

March—Fertilizer Analyses and Valuation.
June—Fertilizer and Cottonseed Meal Analyses.
August—Industrial Progress.
November—Adulteration of Feeds.
December—Inspection and Analyses of Food.

1905

February—Variety and Distance Tests of Corn.
March—Fertilizer Analyses.
April—Fertilizer Analyses and Registration.
September—Handling the Apple.
November—Stock Feed.
December—Food Bulletin.

1906

February—Variety and Distance Tests of Corn.
March—Fertilizers.
April—Fertilizers.
May—Feeding of Beef Cattle.
June—Alfalfa: Growing and History.
July—Fertilizer Analyses.
September—The Cotton Plant: Composition of Parts.
October—Farmers' Institutes.
November—Concentrated Feedstuffs.
December—Food Adulteration.

1907

February—Variety Tests of Cotton and Corn.
March—Fertilizers.
April—Fertilizers.
September—Lettuce.
November—Feed Inspection.
December—Food Adulteration.

1908

February—Variety Tests of Corn and Cotton.

*Not available. Issue exhausted.

March—Fertilizers.
April—Fertilizers.
July—Analyses of Fertilizers and Cottonseed Meal.
October—Commercial Apples.
November—Feed Inspection.

1909

January—Analyses of Fertilizers.
February—Variety Tests of Corn and Cotton.
March—Peanut Culture.
April—Analyses of Fertilizers.
May—Preparation of Fruits and Vegetables for Market.
June—Orchard Spraying.
July—Fertilizer and Cottonseed Meal Analyses.
*August—Culture of Wheat, Oats and Rye.
September—Pecan Culture.
September (Supplement)—Some Common Farm Birds.
October—Farmers' Institutes.
October (Supplement)—Insect Enemies of Tobacco.
November—Feed Inspection.
December—Food Adulteration and Law.

1910

January—Oil Inspection.
January (Supplement)—Winter and Spring Selection of Seed Corn.
February—Variety Tests of Corn and Cotton.
March—Fertilizer Analyses.
April—Fertilizer Analyses.
May—Canning of Fruits and Vegetables.
*June—Culture of the Cowpea.
June (Supplement)—Selecting Seed Corn.
July—Fertilizer Analyses.
August—Fertilizer Experiments with Cotton on the Piedmont and Red Cl Loam Soils of North Carolina.
August (Supplement)—Variety Tests of Wheat and Oats.
September—Fertilizer Experiments with Corn on the Piedmont and R Clay Loam Soils of North Carolina.
September (Supplement)—Oil Inspection.
October—Farmers' Institutes.
October (Supplement)—Estimates of the Food Products Shipped into Nor Carolina in 1909.
November—Feed Inspection.

1911

January—Fertilizer Analyses.
January (Supplement)—Condimental Feeds, Stock and Poultry.

*Not available. Issue exhausted.

February—Variety Tests of Corn and Cotton on Different Types of Soil.
February (Supplement)—Report Test Farm Work on Buncombe and Transylvania Farms.
March—Fertilizer Analyses.
March (Supplement)—Report of Farm Work on the Iredell Test Farm.
April—Fertilizer Analyses.
May—Preliminary Report on Mountain Soils.
June—Cooperative Experiments and Demonstrations.
July—Insect Enemies of Cabbage.
July (Supplement)—Report of Seed Tests.
August—Fertilizer Analyses.
September—Pecans.
September (Supplement)—Oil Inspection.
October—Seed Tests.
October (Supplement)—Culture of Wheat and Oats.
November—Food Adulteration.
November (Supplement)—Feed Inspection.

1912

January—Influence of Soil Types on Plant Varieties.
February—History and Cultivation of the Cotton Plant.
March—Fertilizer Analyses.
April—Fertilizer Analyses.
June (Supplement)—(1) Corn Culture.
June (Supplement)—(2) Oil Inspection.
August—Fertilizer Analyses and Registration.
September—Truck Growing in North Carolina.
October—Seed Tests.
November—Feed Inspection.
November (Supplement)—Food Adulteration.
December—Farmers' Institutes.

1913

January—Fertilizer Analyses.
February—Variety Tests of Corn.
March—Fertilizer Analyses.
April—Some Important Diseases of Field Crops.
April (Supplement)—Oil Inspection.
May—Dairy Herds in North Carolina.
June—Oyster-shell Scale.
July—Leguminous Crops in North Carolina.
August—Commercial Strawberry Culture.
September—Seed Tests.
October—Fertilizer Analyses.

*Not available. Issue exhausted.

November—Feed Inspection.
*December—Food Adulteration.

1914

January—Farmers' Institutes.
February—Variety Tests of Corn.
April—Fertilizer Experiments with Cotton on the Sandy Loam Soils o North Carolina.
May—Insect Enemies of Corn.
June—Fertilizer Analyses.
August—Experiments on Feeding Beef Cattle.
September—Seed Tests.
October—Feed Inspection.
November—Fertilizer Analyses.
December—Food Adulteration.

1915

January—Farmers' Institutes.
February—Report on Piedmont Soils.
*March—(Not issued).
April—Fertilizer Analyses.
May—Fertilizer Experiments with Corn on the Sandy Loam and Coast Plain Soils of North Carolina.
June—Spraying, Orchard Protection, and San Jose Scale.
July—(1) Agricultural Achievements and Problems in North Carolina.
(2) North Carolina Land of Opportunity.
August—Cantaloupe Growing in North Carolina.
September—Seed Tests.
October—Feed Inspection.
November—Fertilizer Analyses.
December—Food Adulteration.

1916

January—Farmers' Institutes.
February—Report on Variety Tests of Cotton for 1915.
March—Prevention and Control of Hog Cholera by Use of Hog-chole Serum.
April—Report of Variety Tests of Corn for 1915.
*May—Ground Limestone or Marl.
June—Fertilizer Analyses.
July—Pruning Fruit Trees.
*August—Some Common Weeds of North Carolina, and Their Control.
September—Report of Seed Tests.
October—Fertilizer Analyses.
November—Feed Inspection.
December—Peach Growing in North Carolina.

*Not available. Issue exhausted.

1917

nuary—Rational Use of Lime on the Farm.
:bruary—Variety Tests of Corn.
:bruary (Supplement)—Analyses of Fertilizers.
arch—Fertilizer Analyses.
arch (Supplement)—Registration Brands of Fertilizer.
)ril—County Soil Report No. 1 (Report on Mecklenburg County Soils, Agriculture, and Industries).
ay—Fertilizer Analyses.
ne—County Soil Report No. 2 (Report on Gaston County Soils and Agriculture).
ly—County Soil Report No. 3 (Report on Union County Soils and Agriculture).
ly (Supplement)—Fertilizer Analyses.
ıgust—County Soil Report No. 4 (Report on Cabarrus County Soils and Agriculture).
ıgust (Supplement)—Fertilizer Analyses.
ptember—Report of Seed Tests for 1917.
:tober—(1) Analyses of Fertilizers, Fall Season, 1916, Spring Season, 1917.
(2) Analyses of Cottonseed Meal.
)vember—Commercial Feeds.
:cember—Crop Rotation Systems Adapted to Sections Infested with Tobacco Wilt.

1918

nuary—Wintering and Fattening Beef Cattle in North Carolina.
:bruary—The Home Orchard.
arch—Cotton Variety Tests for 1917.
)ril—Composite Premium List and Judges' Score Cards.
ay—Report on the Coastal Plain Soils.
ay (Supplement)—Seventeenth Annual Report on Food Adulteration.
ne—Relation of Pulverized Limestone to Crop Production in North Carolina.
ne (Supplement)—Fertilizer Analyses.

Not available. Issue exhausted.

er, 1918 Extension Circular No. 78

REVENT SMUT

BY

DR. F. A. WOLF, PLANT PATHOLOGIST

EAVY TOLL OF GRAIN SMUTS

entable cereal smuts extract a national grain sufficient to fill an elevator of 000 bushels capacity. It is a waste of at wheat to supply our army with 4,000,- rrels of flour or oats—enough to feed 00 horses for a year. Let North Carolina r share of this waste.

. State College of Agriculture and Engineering
State Department of Agriculture
Agricultural Experiment Station, and
Department of Agriculture, Cooperating

Agricultural Extension Service
B. W. KILGORE, *Director*
Raleigh and West Raleigh

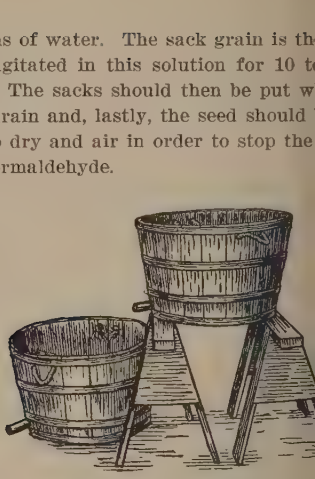
t Can Be Easily Controlled

ers do not generally appreciate the fact the cost of a few cents per acre cereal ay be largely prevented. Last year's n North Carolina were no exception to e and can be expected to recur unless atment is more generally practiced. Bunt ing smut of wheat was quite widely pres- he State, as were also two other wheat s, scab and anthracnose, both of which the heads and cause them to fail to fill. ut causes average annual losses of from per cent. All of these diseases may be ed by treatment of the seed with formal- prior to planting. Either one of three s may be used, none of which, however, expensive tools or apparatus. These is have been called dipping, sprinkling, raying. Each is equally effective and the of a method depends mostly upon the ual.

Dipping

grain which has been cleaned by fanning ove the light and smutted grains is placed lap or gunny sacks. The sacks should be not more than half full and then tied at p. If the sacks are too full it is difficult tate the grain so as to wet it all at the time. The solution is then made up, using uivalent of 1 pint of formaldehyde in 40

gallons of water. The sack grain is th
and agitated in this solution for 10 t
utes. The sacks should then be put w
will drain and, lastly, the seed should
out to dry and air in order to stop the
the formaldehyde.

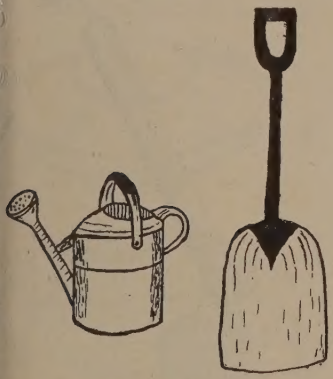


Apparatus for the dipping process. If
half-barrels are fitted with plugs, the h
for the plugs are covered with screen,
rope handles are attached, one may put
loose grain in the upper tub and after tr
ment for ten minutes let the solution d
into the lower tub. The position of
tubs is then reversed, more grain is po
into the solution and the process is
peated.

Sprinkling

The solution for sprinkling is of
strength as for dipping. One-half gallo
cient for each bushel of grain. While
is being shoveled from one pile to an
solution is applied with an ordinary s
can. The grain should be well stirre

kernel is thoroughly wet. It is then cov-
ith sacks, in order to hold in the fumes,
to two hours before being spread out to
d air.

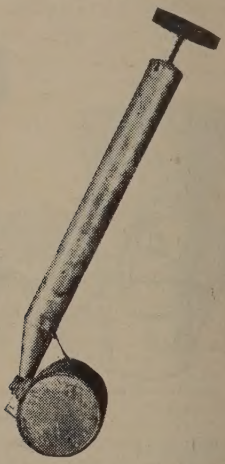


sprinkling can and scoop shovel, apparatus necessary for the sprinkling process.

Spraying

the seed is being shoveled from one pile to
er, each shovelful is sprayed with a solu-
onsisting of one part of formaldehyde and
art of water. The solution is used at the
of 1 quart to 50 bushels of seed. With a
garden sprayer, one stroke of the piston
give enough mist for each shovelful of
After the grain has been treated in this

way it is piled up, covered with sacks
hours and may be uncovered and plan
diately.



Quart sprayer of the type used in the sprayi

Precautions

If there is reason to suspect that
may have been injured by treatment
be tested for germination. Two din
and a piece of cloth four times the s
plates are all that is needed. Wring
out in clean water just dry enough
will not drip. Fold it once and lay
plate. Count out 100 seeds just as

them on the cloth so that the seeds
uch each other. Fold the loose end of
over the seeds and cover it with the
te. After several days open and re-
l count the sprouted seeds. Compare
ination of treated and untreated seed.

Home-made seed germinator.
1, closed; 2, open.

resacking grain in dirty sacks. For-
le fumes irritate the eyes, nose and
nless a good circulation of air is pro-
seed should be carefully fanned prior to